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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,272	11/20/2001	Jack P. Glas	Glas 6-5	9597

23506 7590 05/18/2004

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MARIETTA, GA 30067

EXAMINER

ELAMIN, ABDELMONIEM I

ART UNIT	PAPER NUMBER
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2116

DATE MAILED: 05/18/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

OK

## Office Action Summary

Application No.

09/989,272

Applicant(s)

GLAS ET AL.

Examiner

A Elamin

Art Unit

2116

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 20 November 2001.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-6, 9-12, 15, 17-19, 21, 23-25, 27, 28, 30-33, 35 and 36 is/are rejected.  
7) ☒ Claim(s) 7-8, 13-14, 16, 20, 22, 26, 29, 34, 37-39 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 9-12, 15, 17-19, 21, 23-25, 27-28, 30-33, 35-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Urabe et al, US. Pat. No. 5,828,707.

3. Claims 1, 9, 15, 21, 27-28 and 35-36, Urabe teaches a data detector [*title, abstract*], comprising;

a delay logic [23 and 24 of Fig. 1], receiving an unfiltered input signal in quadrature and in phase components [ $I(t)$  and  $q(t)$  of Fig. 1], and applying a delay to each of the in-phase and quadrature phase components of the unfiltered input signal [23 and 24 of Fig. 1];

a first multiplication logic, the first multiplication logic multiplying the delayed in-phase component of the unfiltered input signal by the quadrature phase component of the unfiltered input signal to obtain a first multiplication result [*first multiplier 27 of Fig. 1*];

a second multiplication logic, the second multiplication logic multiplying the delayed quadrature phase component of the unfiltered input signal by the in-phase component of the unfiltered input signal to obtain a second multiplication result [*second multiplier 28 of Fig. 1*];  
and

an adder, the adder adding the first multiplication result with the second multiplication result and generating a decision signal [*adder 30 of Fig. 1*].

4. Claims 2, 5-6, 12, 19, 25, 32-33, Urabe teaches wherein the delay logic comprises at least one shift registers [*col. 5, lines 65-67*].

5. Claims 3-4, 10-11, 17-18, 23-24, 30-31 and 38, Urabe teaches the delay applied by the delay logic is approximately equal to a symbol period [*col. 1, lines 60-65*].

#### ***Allowable Subject Matter***

6. Claims 7-8, 13-14, 16, 20, 22, 26, 29, 34, 37-39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to A Elamin whose telephone number is (703)305-3804. The examiner can normally be reached on MON-FRI 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (703) 308-1159. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A Elamin  
Primary Examiner  
Art Unit 2116



A. ELAMIN  
PRIMARY EXAMINER

May 16, 2004